18. Demonstrate the concept of loops in C. Discuss the different types of loops available and provide examples.

19. Relate the different storage classes in C. Provide examples to show how storage classes affect the scope and lifetime of variables in a program?

20. Describe the concept of pointers in C. Discuss how pointers can be used to manipulate arrays and structures with examples.

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NOVEMBER/DECEMBER 2024

23UECP13A — PROGRAMMING IN C

Time : Three hours Maximum : 75 marks

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SECTION A — (10 × 2 = 20 marks)

Answer ALL questions.

1. Discuss the key features of the C language.

2. Explain the role of preprocessor in C.

3. Differentiate between ++i and i++ in C.

4. How to declare and define variables in C and what they are used for?

5. Describe the role of the break statement in a loop?

6. Define an array in C.

7. Classify two common string functions in C and their purposes.

8. Outline a multi dimensional array in C.

9. Relate a pointer in C.

10. Name an enum in C with an example.

SECTION B — (5 × 5 = 25 marks)

Answer ALL questions.

11. (a) Discuss the benefits of using C-over other programming languages.

Or

(b) What are preprocessor directives in C? Explain with examples.

12. (a) Explain the different types of operators in C with examples.

Or

(b) Find implicit and explicit type casting in C with examples.

13. (a) Describe the concept of string handling in C. Explain the common string functions like strlen( ), strcpy( ) and strcmp( ) with examples

Or

(b) Define an array? Explain how to initialize and access elements in a one-dimensional array in C.

14. (a) Illustrate how to initialize and access elements in a two-dimensional array with an example.

Or

(b) Recall storage classes in C? Explain the different types with examples.

15. (a) Outline the concept of pointer arithmetic in C with examples.

Or

(b) Extend the differences between structures and unions in C, providing examples of when each might be used.

SECTION C — (3 × 10 = 30 marks)

Answer any THREE questions.

16. Discuss the main features of C Language. How do these features contribute to its popularity and wide usage in programming?

17. What is typecasting in C? Explain its importance and demonstrate how explicit and implicit typecasting works with examples.